

of the centre of the crater when close to the terminator give the following position :

Hortensius 4 measures $27^{\circ} 45' 22''$ E. Long. $6^{\circ} 0' 46''$ N. Lat.

e. (Kepler). The considerable discrepancy between the two places, though both of the first order, admits of an easy explanation. Of the eleven measures on which the position assigned by Mädler rests, three were made during the very commencement of the work ; and many of the results obtained by Mädler during this period he had to reject as faulty. Now these three measures, though retained by Mädler, are discordant when compared with the other eight, as they place the latitude nearly three-quarters of a degree farther south than the rest do. These three should obviously be rejected, and then the other accordant eight measures give for the place of this point, Kepler, 8 measures, $37^{\circ} 43' 21''$ E. long. ; $7^{\circ} 55' 33''$ N. lat. This result agrees entirely with the position derived from the later measures.

f. (Rosse). This name has been applied, as the point is very well placed for a point of the first order, and requires a special name. The Rosse of Webb has an unsuitable locality on the S.W. quadrant.

This Catalogue has not been delayed until the completion of the work, as this will occupy a considerable period ; and these places being in many cases far more accurate than Mädler's, will be found very useful in selenographical work now proceeding. Moreover further work in this direction has been suspended, pending a thorough examination of the Moon's limb, the irregularities on which exert considerable influence on this work.

Chart of the Apparent Path of Mars, 1877, with Neighbouring Stars.

(Communicated by the Astronomer Royal.)

The accompanying chart has been prepared with a view of facilitating observations for the determination of the Solar parallax, the stars down to the ninth magnitude having been laid down from Bessel's "Catalogus Stellarum in Zonis Regionemontanis" (Weisse's Bessel), applying $+2^m 42^s$ to the R.A., and $-17'$ to the N.P.D. of each star for precession since 1825. The daily positions of *Mars* are, for Greenwich Mean Noon.

The approximate places of the stars are given in the following table :—



Stars for Chart of Path of Mars, 1877, from Weisse's Bessel
"Cat. Stell. in Zonis Regiomontanis."

No.	Mag.	Mean R.A. 1877, Jan. 1.			Mean N.P.D. 1877, Jan. 1.	
		h	m	s	°	'
902	9	22	44	13	98	36
910	8		44	44	99	58
912	9		44	48	98	57
914	9		44	53	99	18
918	9		45	4	102	41
921	9		45	19	99	12
926	9		45	39	101	36
929	9		46	0	100	11
933	7		46	15	100	42
935	8		46	17	103	44
946	9		46	31	101	4
950	9		46	44	101	41
954	9		46	55	99	44
956	7		46	57	102	16
966	8		47	35	102	50
968	9		47	45	103	24
977	9		48	1	100	57
981	9		48	28	100	1
994	9		48	58	100	46
1007	9		49	36	101	43
1017	8		50	20	100	55
1020	9		50	23	101	3
1047	9		51	37	101	47
1065	9		52	29	101	40
1079	6		53	4	103	43
1086	9		53	19	101	32
1092	9		53	39	101	37
1099	8		53	53	99	32
1120	8		54	41	100	12
1121	9		54	44	103	28
1122	9		54	48	101	53
1126	9		54	54	101	49
1129	9		55	0	102	44
1145	9	22	55	45	103	4

No.	Mag.	Mean R.A. 1877, Jan. 1.			Mean N.P.D. 1877, Jan. 1.	
		h	m	s	°	'
1150	9	22	55	55	101	58
1156	8		56	4	101	55
1165	8		56	18	103	32
1166	8		56	22	103	59
1184	9		57	27	102	57
1204	8		58	1	102	50
1214	9		58	36	100	14
1231	8		59	22	101	33
1232	8		59	27	101	6
1240	9		59	45	100	3
1241	7		59	50	100	15
1245	9	23	0	10	99	18
1249	8		0	30	103	23
1254	9		0	46	102	31
1258	8		0	53	99	29
1261	8		0	56	102	28
1276	9		1	53	102	16
1279	8		2	2	99	40
1292	9		2	40	101	21
7	9		2	54	99	51
9	9		2	59	103	17
12	9		3	11	102	43
14	9		3	17	102	45
20	9		3	30	101	11
27	8		3	57	103	58
36	9		4	29	99	17
42	9		4	46	99	52
49	9		5	3	101	10
56	9		5	30	99	40
57	8		5	32	102	36
69	9		6	12	101	0
72	9		6	21	103	29
73	9		6	22	103	16
76	7		6	34	100	14
79	9		6	42	103	20
84	8		7	4	99	35
85	9		7	4	100	36
92	8	23	7	16	100	59

Nov. 1875.

the Apparent Path of Mars, 1877.

25

No.	Mag.	Mean R.A. 1877, Jan. 1.			Mean N.P.D. 1877, Jan. 1.	
		h	m	s	°	'
93	9	23	7	18	99	28
97	7		7	20	104	4
101	9		7	34	101	10
103	8		7	37	99	35
104	8		7	37	99	36
109	9		7	48	99	36
118	9		8	4	101	8
123	7		8	15	101	21
124	8		8	17	100	21
138	9		9	10	102	18
143	9		9	21	101	43
144	9		9	23	99	45
146	7		9	24	103	51
147	8		9	25	99	45
156	8		10	2	100	53
157	9		10	4	98	50
160	9		10	17	102	38
173	9		10	40	101	2
185	7		11	14	102	23
188	9		11	17	103	28
189	9		11	21	99	1
191	9		11	23	102	49
193	9		11	26	101	56
196	4-5		11	31	99	51
224	9		12	28	102	28
226	5		12	33	100	18
228	8		12	36	102	51
94 Aquarii	6		12	37	104	8
239	9		13	16	100	21
253	9		14	3	101	29
260	8		14	16	99	36
265	8		14	28	101	12
270	8		14	48	103	30
271	7		14	49	103	57
272	8		14	49	99	21
286	9		15	19	101	32
309	8		16	36	101	27
315	8	23	16	55	100	4

26 *The Astronomer Royal, Chart of Path of Mars, 1877. XXXVI. 1,*

No.	Mag.	Mean R.A. 1877, Jan. 1.			Mean N.P.D. 1877, Jan. 1.	
		h	m	s	°	'
317	9	23	17	2	99	34
322	8		17	23	99	8
323	7		17	24	99	8
365	9		19	24	101	50
373	8		19	55	103	38
377	9		20	14	100	43
381	9		20	22	101	43
385	9		20	31	101	37
394	7		21	2	103	36
402	7		21	41	102	8
403	8		21	44	102	53
417	9		22	13	99	12
423	9		22	30	100	47
427	7		22	40	99	57
440	9		23	17	99	21
453	9		23	53	101	8
463	9		24	30	100	50
474	8		24	54	102	52
483	9		25	25	98	51
484	9		25	28	101	33
485	8		25	28	102	38
488	9		25	34	101	41
P. xxiii-109	7		25	50	102	13
495	9		25	59	101	50
497	7		26	4	101	41
508	8		26	35	99	51
509	9		26	36	102	40
514	9		26	43	100	3
516	9		26	49	100	9
519	7		26	52	103	17
541	8		27	58	100	24
556	9		28	29	101	16
557	9		28	31	101	17
562	8		28	50	102	16
565	8		28	55	100	22
571	8		29	6	101	14
583	8		29	36	101	22
585	9	23	29	39	101	23

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No.	Mag.	Mean R.A.			Mean N.P.D.	
		1877, Jan. 1.			1877, Jan. 1.	
		h	m	s	°	'
586	7	23	29	40	99	27
617	5	31	17		103	45
619	8	31	22		100	40
629	7	23	31	52	99	19

Royal Observatory, Greenwich,
1875, Nov. 12.

*Spectroscopic Observations made at the Royal Observatory,
Greenwich.*

(Communicated by the Astronomer Royal.)

Since the establishment of the new Physical Department, the Spectroscope has been used, as opportunity offered, for the determination of the motions of stars in the direction of the visual ray, by means of the displacement of the lines of known terrestrial elements in their spectra, the line usually selected being the bluish-green line of hydrogen, corresponding to the F line of the solar spectrum. Originally the comparison between the line of hydrogen and that in the star's spectrum was made by means of a vacuum-tube placed within the tube of the Equatoreal, and at a distance of either 2 feet or 4 feet from the slit of the spectroscope, the vacuum-tube being carefully adjusted to pass through the axis of the cone of rays from the object-glass, and at right angles to it; the observation was made with the tube parallel to the slit of the spectroscope in some cases, and at right angles to it in others. A convex cylindrical lens has sometimes been used in front of the slit, to give greater breadth to the star's spectrum, though the cylindricity of the prisms themselves has usually been found sufficient for this purpose.

On 1874, August 24, two concave lenses, placed side by side, were substituted for the single concave lens in the collimator-telescope, so that the rays which returned through the collimator to the eye of the observer (after reflection from the last prism of the train used) passed through a different concave lens from that on which the incident-pencil fell. The results obtained with this arrangement appeared to be affected by a systematic error, and in consequence of this the original plan was reverted to on 1875, March 4. Suspicion being thus thrown on the method of comparison adopted (in which a narrow strip of the object-glass was used for the rays from the vacuum-tube and the rest for the rays from the star) it was abandoned, and an actual